

# DIGITRON SEMICONDUCTORS

MUR1505-MUR1560

15A SCHOTTKY RECTIFIER

## MAXIMUM RATINGS

Rating	Symbol	MUR								Unit
		1505	1510	1515	1520	1530	1540	1550	1560	
Peak repetitive reverse voltage Working peak reverse voltage DC blocking voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	50	100	150	200	300	400	500	600	V
Average rectified forward current (Rated $V_R$ )	$I_{F(AV)}$	15 @ $T_C = 150^\circ\text{C}$						15 @ $T_C = 145^\circ\text{C}$		A
Peak repetitive forward current (Rated $V_R$ , square wave, 20 kHz)	$I_{FRM}$	30 @ $T_C = 150^\circ\text{C}$						30 @ $T_C = 145^\circ\text{C}$		A
Non repetitive peak surge current (Surge applied at rated load conditions, halfwave, single phase, 60Hz)	$I_{FSM}$	200				150				A
Operating and storage junction temperature range	$T_J, T_{stg}$	-65 to +175								$^\circ\text{C}$
Maximum thermal resistance Junction to case	$R_{\theta JC}$	1.5								$^\circ\text{C/W}$

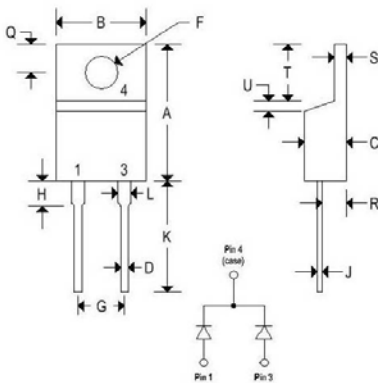
## ELECTRICAL CHARACTERISTICS ( $T_C = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	MUR								Unit
		1505	1510	1515	1520	1530	1540	1550	1560	
Maximum forward voltage drop <sup>(1)</sup> ( $I_F = 15\text{A}, T_C = 150^\circ\text{C}$ ) ( $I_F = 15\text{A}, T_C = 25^\circ\text{C}$ )	$V_F$	0.85			1.12			1.20		V
		1.05			1.25			1.50		
Maximum DC reverse current <sup>(1)</sup> (Rated dc voltage, $T_C = 150^\circ\text{C}$ ) (Rated dc voltage, $T_C = 25^\circ\text{C}$ )	$I_R$	500						1000		$\mu\text{A}$
		10						10		
Maximum reverse recovery time ( $I_F = 1.0\text{A}, di/dt = 50\text{A}/\mu\text{s}$ )	$t_{rr}$	35				60				ns

Note 1: Pulse test: Pulse width = 300 $\mu\text{s}$ , duty cycle = 2.0%.

## MECHANICAL CHARACTERISTICS

Case	TO-220AC
Marking	Alpha-numeric
Pin out	See below



	TO-220AC			
	Inches		Millimeters	
	Min	Max	Min	Max
A	0.595	0.620	15.110	15.750
B	0.390	0.405	9.650	10.290
C	0.180	0.190	4.060	4.820
D	0.142	0.147	3.610	3.730
F	0.142	0.147	3.610	3.730
G	0.190	0.210	4.830	5.330
H	0.110	0.130	2.790	3.300
J	0.018	0.025	0.460	0.640
K	0.500	0.562	12.700	14.270
L	0.045	0.050	1.140	1.270
Q	0.100	0.120	2.540	3.040
R	0.080	0.110	2.040	2.790
S	0.045	0.055	1.140	1.390
T	0.235	0.255	5.970	6.480
U	0.030	0.050	0.760	1.270

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Available Non-RoHS (standard) or RoHS compliant (add PBF suffix).

Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.

FIGURE 1 — TYPICAL FORWARD VOLTAGE

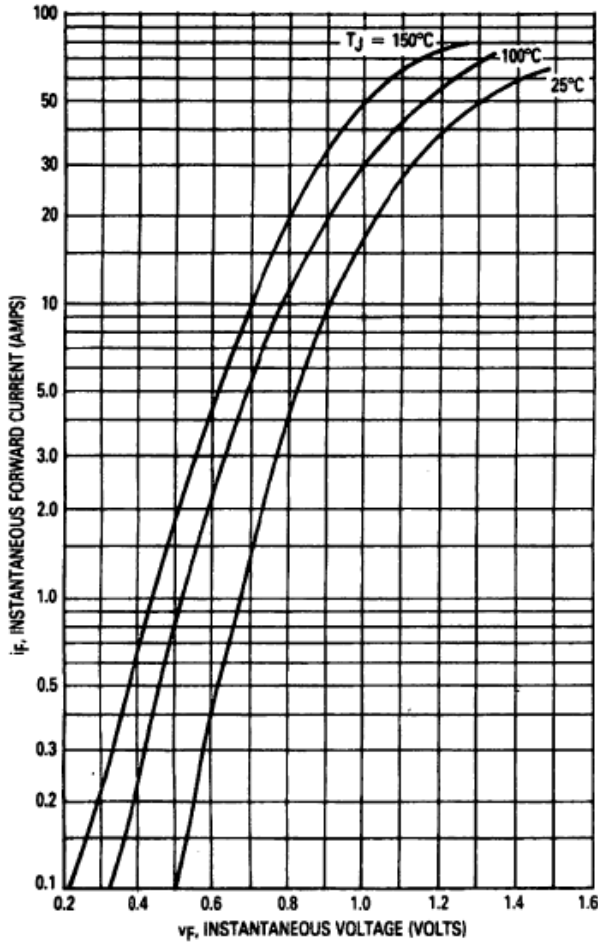
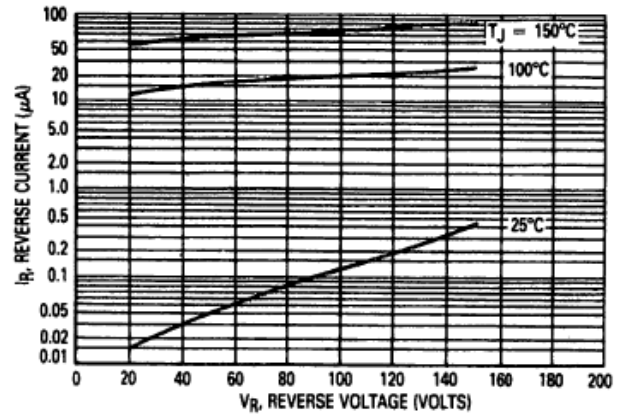


FIGURE 2 — TYPICAL REVERSE CURRENT\*



\*The curves shown are typical for the highest voltage device in the voltage grouping. Typical reverse current for lower voltage selections can be estimated from these same curves if  $V_R$  is sufficiently below rated  $V_R$ .

FIGURE 3 — CURRENT DERATING, CASE

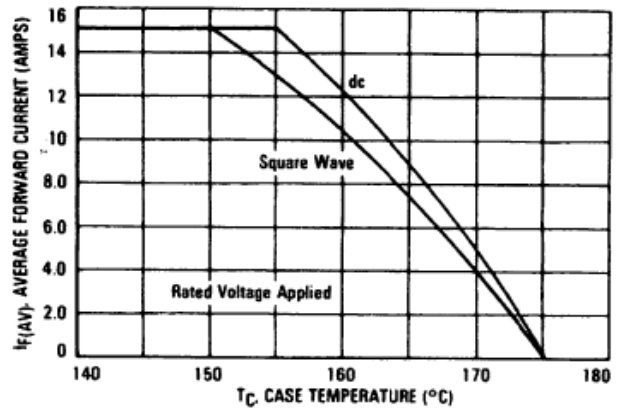


FIGURE 4 — CURRENT DERATING, AMBIENT

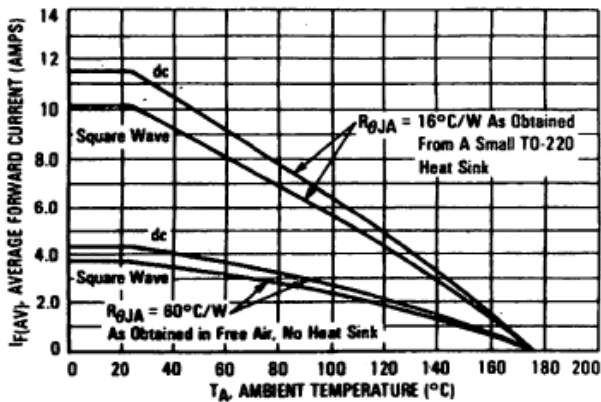
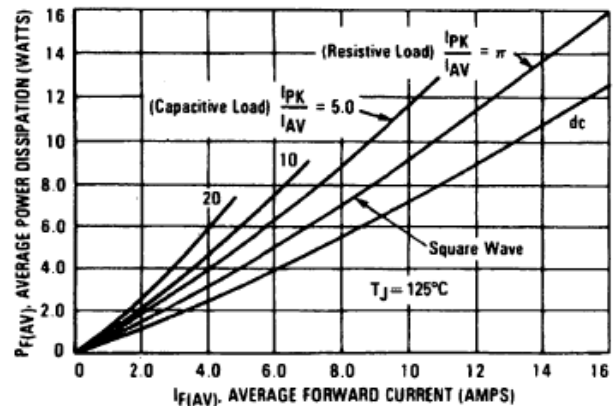


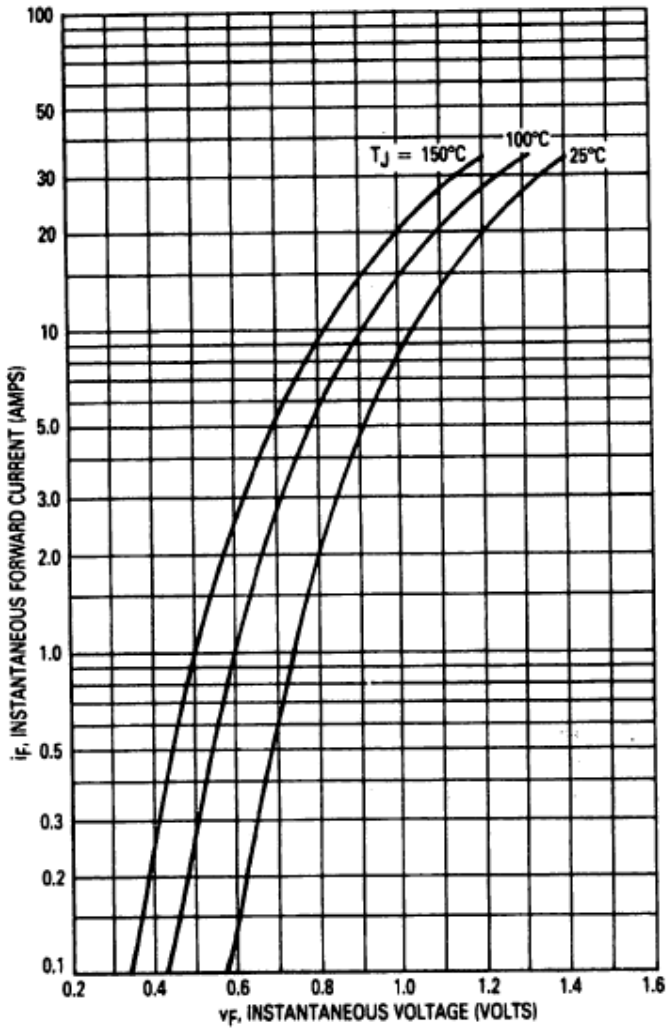
FIGURE 5 — POWER DISSIPATION



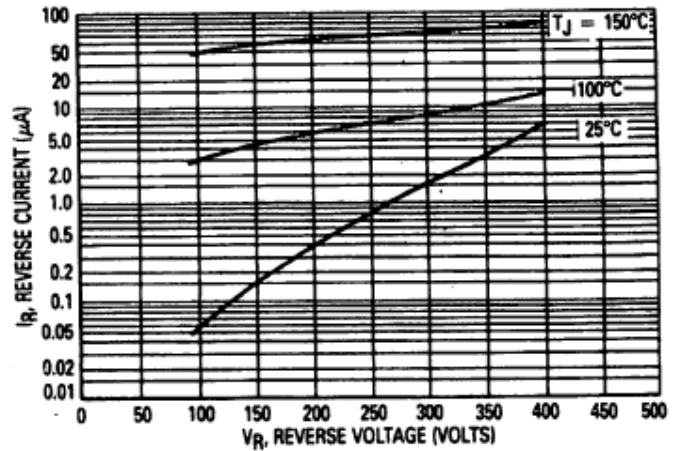
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**FIGURE 6 — TYPICAL FORWARD VOLTAGE**

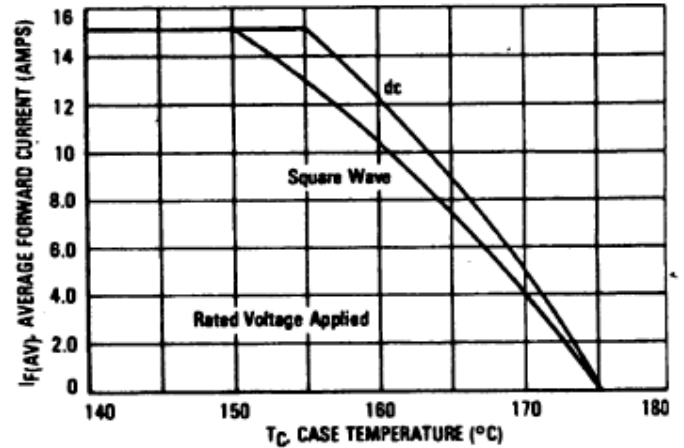


**FIGURE 7 — TYPICAL REVERSE CURRENT\***

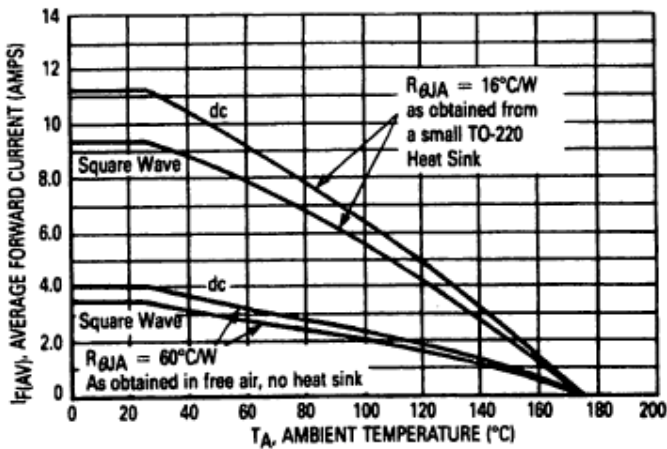


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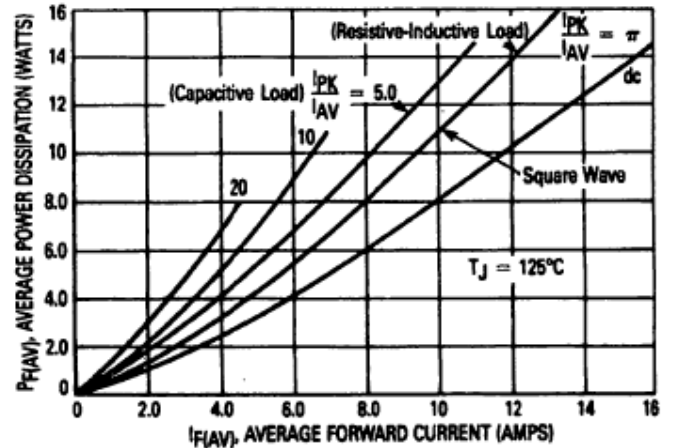
**FIGURE 8 — CURRENT DERATING, CASE**



**FIGURE 9 — CURRENT DERATING, AMBIENT**



**FIGURE 10 — POWER DISSIPATION**



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FIGURE 11 — TYPICAL FORWARD VOLTAGE

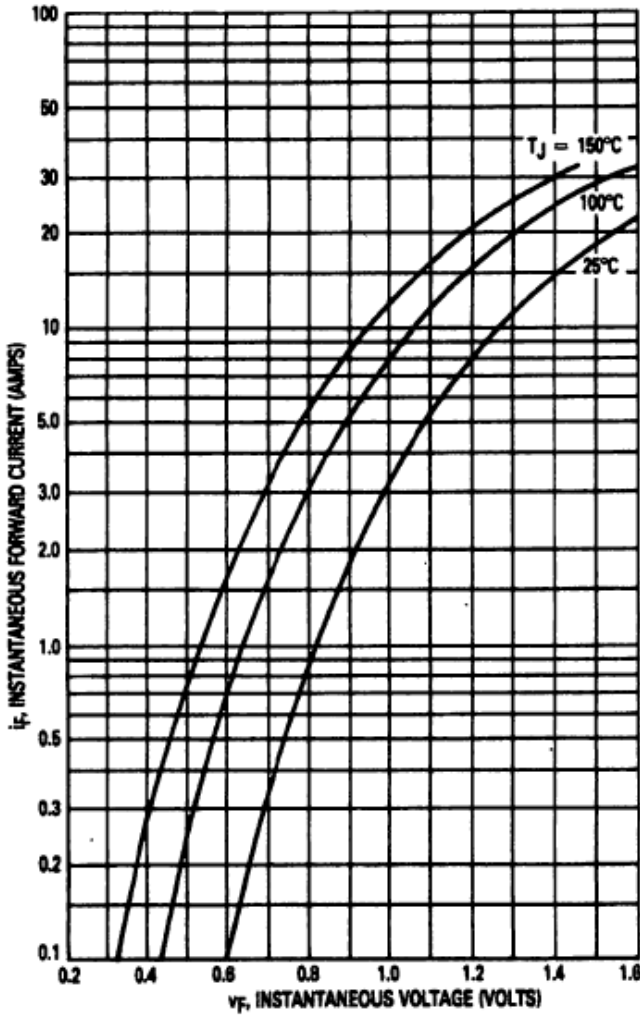
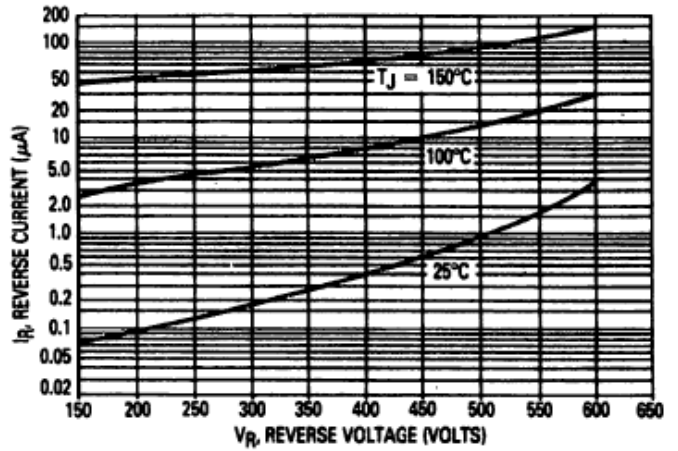


FIGURE 12 — TYPICAL REVERSE CURRENT\*



\*The curves shown are typical for the highest voltage device in the voltage grouping. Typical reverse current for lower voltage selections can be estimated from these same curves if  $V_R$  is sufficiently below rated  $V_R$ .

FIGURE 13 — CURRENT DERATING, CASE

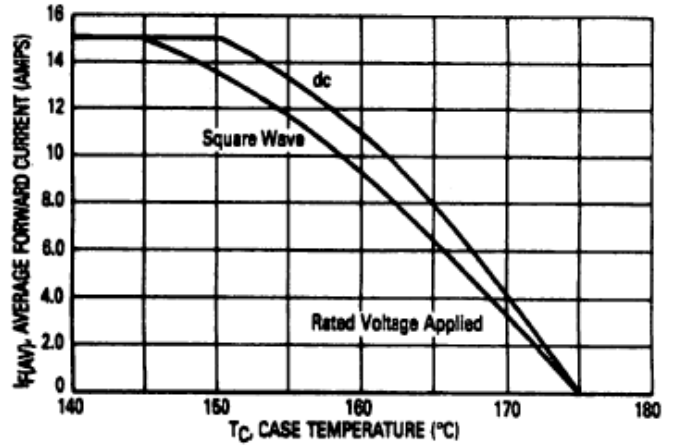


FIGURE 14 — CURRENT DERATING, AMBIENT

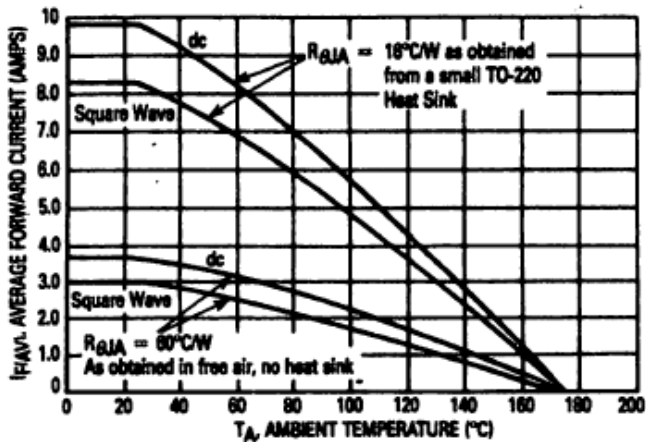
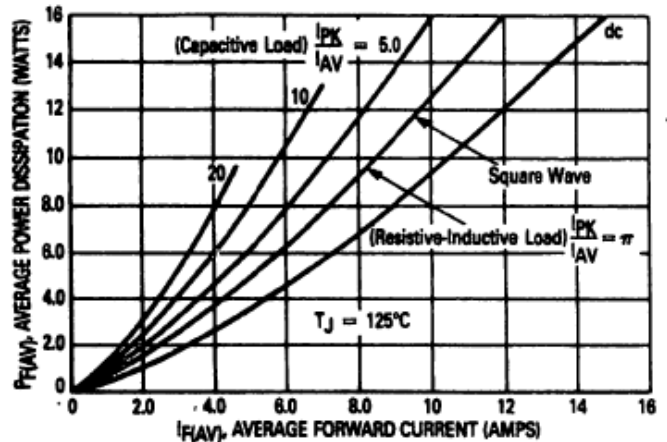


FIGURE 15 — POWER DISSIPATION



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FIGURE 16 — THERMAL RESPONSE

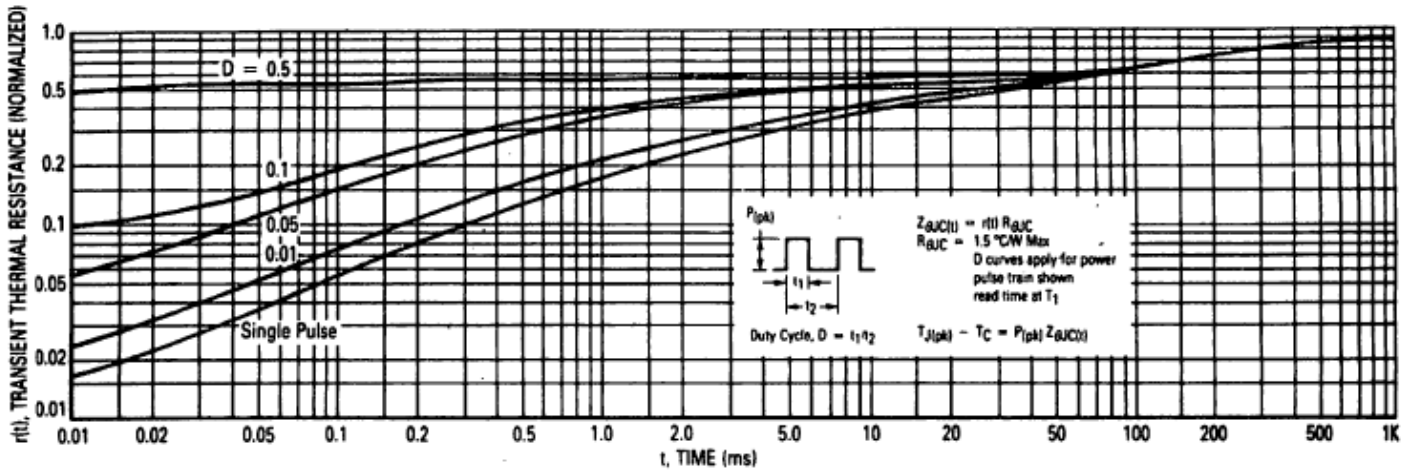


FIGURE 17 — TYPICAL CAPACITANCE

